What Is Claimed Is:

1. A device for determining at least one parameter of a medium flowing in a main flow direction (18) in a line, in particular for determining the air mass flow rate in the intake manifold of an internal combustion engine, including a line component (3) that forms a line through-channel, and a sensor device (1) having a bypass part (6), which is situated in the line component (3) so that a partial stream of the medium flowing in the line component enters an inlet area (27) of a channel structure formed in the bypass part, the inlet area (27) having a removal opening (33) which opens into the line through-channel at at least one of two sidewalls (16, 17) of the bypass part (6) that extend parallel to the main flow direction (18),
wherein a flow diversion element (2) is situated in the line component (3 ) upstream from the bypass part (6) with respect to the main flow direction (18) and has at least one diversion surface (20) facing the main flow direction (18), which, starting from an apex line (25) located at a distance from the bypass part (6), curves evenly on both sides toward the two sidewalls (16, 17) so that the ends (38) of the diversion surface (20) that face away from the apex line are aligned with the sidewalls (16, 17).

2. The device as recited in Claim 1,
wherein a turbulence-generating structure (23, 37) is provided on the diversion surface (20) of the bypass part (6) or at least in the immediate proximity thereof, at least upstream from the sidewall (16) having the removal opening (28) with respect to the main flow direction (18), and generates turbulence in the boundary layer of the flow at this sidewall (16) of the bypass part.

3. The device as recited in Claim 1 or 2, wherein the diversion surface (20) is elliptically curved.

4. The device as recited in Claim 3, wherein the small semi-axis (b) of the elliptically curved diversion surface (20) is equal to half the distance between the two sidewalls (16, 17) of the bypass part, and the large semi-axis (a) of the elliptically curved diversion surface (20) is at least twice the length of the small semi-axis (b). (Figure 4)

5. The device as recited in Claim 2, wherein the turbulence-generating structure is formed via a discontinuity and/or an unevenness on the evenly curved diversion surface (20).

6. The device as recited in one of Claims 2 through 5, wherein the turbulence-generating structure is formed via at least one wire (37) applied to the diversion surface (20) or situated in the immediate proximity thereof.

7. The device as recited in Claim 6, wherein the wire (37) has a plurality of alternating curves and a serrated contour having a large number of serrations.

8. The device as recited in one of Claims 2 through 5, wherein the turbulence-generating structure is formed via a plurality of slits (23) created in the diversion surface (20), each of which is in a plane perpendicular to the sidewalls (16, 17) of the bypass part (6) and parallel to the main flow direction (18).

9. The device as recited in Claim 8, wherein the slits (23) have a rectangular cross section having an inner surface (22) between the diversion

surface (20) and the bypass part (6), which preferably is also, starting from a second apex line (34), elliptically curved toward the bypass part, and each of the ends of the inner surface (22) facing away from the second apex line (34) transitions into a surface (24) extending diagonally relative to the sidewalls (16, 17). (Figure 4)

10. The device as recited in one of the preceding claims, wherein the flow diversion element (2) has a through-opening (26) which is aligned with an opening (21) of the inlet area (27) of the channel structure.

11. The device as recited in Claims 2 and 10, wherein the turbulence-generating structure (23) is situated perpendicular to the main flow direction (18) and parallel to the sidewalls (16, 17) above as well as below the through-opening (26) and in particular additionally on the sidewalls (30) that delimit the through-opening.

12. The device as recited in one of the preceding claims, wherein the flow diversion element (1) is manufactured separately from the sensor device as a separate component, and in particular is designed so that it and the line component (3) form a single component.

13. The device as recited in one of the preceding claims, wherein a rectifier element (7) is situated in the line component (3) level with the flow diversion element (2) and upstream from the bypass part (6) with respect to the main flow direction (18). (Figure 8, Figure 9)

14. The device as recited in Claim 13, wherein the flow diversion element (2) has a through-opening (26) which is aligned with an opening (21) of the inlet area (27) of the channel structure, and the

rectifier element (7) is situated downstream from the orifice (60) of the through-opening (26) with respect to the main flow direction (18). (Figure 9)

15. The device as recited in Claim 13, wherein the rectifier element (7), the flow diversion element (2) and the line component (3) are connected to each other to form a single component.

16. The device as recited in Claim 13, wherein the integrated component that includes the rectifier element (7), the flow diversion element (2) and the line component (3) is manufactured from plastic, in particular as an injection-molded part.

17. The device as recited in Claim 13, wherein the rectifier element (7) includes a first lattice made of bars (51) parallel to one another and a second lattice made of bars (52) parallel to one another, the first bars (51) being roughly perpendicular to the second bars (52). (Figure 8)